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managed by Brookhaven Science Associates
for the U.S. Department of Energy

Mr. Brian Jankauskas
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway – 12th Floor
New York, New York 12233-7051

December 7, 2021

Ms. Sharon Hartzell
Federal Facilities Section
U.S. EPA – Region II
290 Broadway – 18th Floor
New York, New York 10007-1866

Dear Mr. Jankauskas and Ms. Hartzell:

**SUBJECT: BROOKHAVEN NATIONAL LABORATORY (BNL) INTERAGENCY
AGREEMENT (IAG) – MONTHLY REPORT FOR NOVEMBER 2021**

In accordance with the Interagency Agreement (IAG) for Brookhaven National Laboratory (BNL), enclosed is the Monthly Report for November 2021 covering the Long-term Stewardship (LTS) areas listed below:

- Brookhaven Graphite Research Reactor (BGRR) Surveillance and Maintenance
- High Flux Beam Reactor (HFBR), including the Waste Loading Area (WLA) Surveillance and Maintenance
- Soil and Water Remediation

If you have any questions, please call Gerald Granzen at (631) 344-4089.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Dorsch", written over a horizontal line.

William Dorsch, Manager
Groundwater Protection Group

Enclosure, as stated:

P. Armani, NYSDEC	J. Carter, BHSO
C. Costello, NYSDOH	K. Eng, BHSO
D. O'Hehir, NYSDOH	F. Fernandez, BHSO
S. Rushford, NYSDOH	R. Gordon, BHSO
A. Rapijko, SCDHS	G. Granzen, BHSO
J. Wanlass, SCDHS	C. Kwok, BHSO
M. Soucie, NYSDOH	G. Olson, BHSO
D. Pocze, EPA	C. Polanish, BHSO
	J. Remien, BSA
	S. Coleman, BSA
	R. Howe, BSA
	D. Paquette, BSA
	V. Racaniello, BSA
	A. Engel, BSA
	File: GWER 17.1.21

**Brookhaven National Laboratory
Interagency Agreement (IAG) Monthly Report
November 2021
Long Term Stewardship (LTS) Activities**

**BROOKHAVEN GRAPHITE RESEARCH REACTOR (BGRR) SURVEILLANCE AND
MAINTENANCE**

Current Month Technical Performance Analysis

Accomplishments and/or Technical Achievements

- Conducted routine surveillance and maintenance (S&M) activities.
- The quarterly inspection of the high bay, former offices, dog houses and grounds was completed 11/16/21. The annual structural inspection was performed 11/17/21. No significant issues were identified.
- Electrical work was initiated in the high bay for the Quantum Network experiment.

Highlights of any changes to objectives and description of any changes in technical approach

- None.

Key Issues

- None.

Planned Actions for the Next 90 Days

- Continue S&M activities.

**HIGH FLUX BEAM REACTOR (HFBR) INCLUDING, STACK, GROUNDS, AND WASTE
LOADING AREA (WLA) SURVEILLANCE AND MAINTENANCE**

Current Month Technical Performance Analysis

Accomplishments and/or Technical Achievements

- The quarterly inspection of the confinement dome/outside grounds and annual structural inspection was performed 11/18/21. No significant issues were identified.
- BSA and BHSO participated in the weekly stack demolition coordination teleconferences among the contractor, the Army Corps of Engineers (USACE) and DOE's Office of Environmental Management (EM).
- BSA, DOE and USACE reviewed the draft Stack Demolition Closeout Report, including the Oak Ridge Institute for Science and Education (ORISE) Independent Verification Report.

Highlights of any changes to objectives and description of any changes in technical approach

- None.

Key Issues

- Stack exterior coating abatement liquid and solid waste remains stored on-site.

Planned Actions for the Next 90 Days

- Continue S&M activities.
- Contractor to conduct off-site disposal in December of the liquid/solid waste generated from the stack exterior coating abatement.
- Following USACE final review, the draft Stack Closeout Report will be submitted to the regulators in December.

SOIL AND WATER REMEDIATION

Current Month Technical Performance Analysis

Accomplishments and/or Technical Achievements:

- The IAG monthly teleconference was held 11/4/21 and included updates on the HFBR stack post-demolition cleanup, the upcoming Community Advisory Council (CAC) meeting and the per- and polyfluoroalkyl substances (PFAS) treatment system construction.
- The CAC meeting was held 11/10/21 and included a summary of the Five Year Review and an update of groundwater cleanup status.
- BHSO submitted the draft annual IAG Schedules Update to the regulators for review and approval 11/29/21.
- Work continued on the PFAS Time Critical Removal Action (TCRA) groundwater remediation including:
 - The contractor continued field work with the installation of six of the 11 extraction wells, and 25 of the 83 monitoring wells.
 - The installation of non-potable water pipe associated with the current firehouse treatment system was completed beneath Upton Road to the carbon treatment vessels at Building 492. Pipe installation was started from Building 492 for the discharge line to the OU III recharge basin.
 - Piping at Building 492 associated with the two new carbon vessels for the current firehouse system is being completed.
 - Surveying of the 12 recently installed monitoring wells in the southwest portion of the BNL site is complete. Updated groundwater contours for this area of the site were prepared. The three new William Floyd Well Field sentinel wells and two existing shallow wells (117-01 and 117-02) were sampled. PFOS and PFOA were detected in the two shallow wells at concentrations below the 10 ng/L drinking water standards. Installed a Geoprobe well to evaluate vertical distribution of PFAS near monitoring well 117-01.
 - Began installation of Geoprobos west of dormitory Building 170 to help identify the source of the “western lobe” of high level PFAS.

- The North Street East Groundwater Treatment System high level alarm in the injection wells was repaired and the influent flow meter was replaced.
- A new blower for the Middle Road/South Boundary/Western South Boundary air stripper was received, and planning for the installation is underway.
- The BGRR Sr-90 Groundwater Treatment System extraction well SR-1 was not working. The well drilling contractor replaced the pump, and it was restarted.
- The pump in OU I South Boundary Groundwater Treatment System extraction well EW-1 has failed, and the electricians are evaluating the problem.
- The 3rd Quarter Groundwater Systems Operations Report is undergoing internal review.
- Reviewed the Peconic River Fish Surveillance Monitoring Data Quality Objective for the 2022 Environmental Monitoring Plan.
- The BNL Water and Sanitary Planning Team met 11/9/21.

Highlights of any changes to objectives and description of any changes in technical approach

- None.

Key Issues

- The Laboratory continued COVID-Phase 2 operations. The Groundwater Protection Group (GPG) maintained minimal staff working on-site to manage field activities. All other GPG staff continue to work remotely.
- BHSO submitted BSA and BHSO comments on NYSDEC's proposed Water Quality Guidance Values for PFOS, PFOA and 1,4-Dioxane on 11/19/21.

Planned Actions for the Next 90 Days

- The Laboratory and GPG will continue COVID-Phase 2 operations.
- The monthly IAG teleconference is scheduled for 12/2/21 and will include updates on the HFBR stack post-demolition cleanup and PFAS groundwater characterization/remediation system construction.
- Submit response to NYSDEC/NYSDOH 10/26/21 Five Year Review letter to the regulators.
- Continue installation of extraction wells, piping, communications, electric and monitoring wells for the TCRA PFAS Source Area Groundwater Remediation Systems.
- Issue revision of the TCRA PFAS Characterization Report to incorporate data from the additional temporary wells installed during April-November, and editorial comments received from NYSDEC.
- Continue the installation of temporary wells using the Geoprobe west of Building 170 to help identify the source of the "western lobe" of high PFAS concentrations.
- Continue to install temporary wells near the William Floyd Wellfield sentinel wells to verify vertical distribution of PFAS.
- Following waste disposal, submit the Closeout Report for Building 650 demolition to the regulators.
- Following vegetation removal, BNL's Radiological Controls representative will complete the fixed contamination survey on the building foundations at the former Hazardous Waste Management Facility.
- Issue the 3rd Quarter Groundwater Systems Operations Report to the regulators.